

Docket No. 071949-5301

Patent

selected from the group consisting of cardiac Troponin-T and cardiac Troponin-I;

contacting said sample with a second antibody that specifically binds to a second marker selected from the group consisting of BNP and pro-BNP;

providing means for determining binding between each of said respective markers and each of said respective antibodies,

whereby said binding provides a means for determining cardiac mortality rate.

24. (New) The method of claim 23, wherein said body fluid is selected from the group consisting of blood, serum, plasma, and urine.

### REMARKS

#### *Response to Restriction Requirement*

The Examiner has divided the claims into three groups:

Group I: Claims 1-8, 11-18, and 22;

Group II: Claim 9; and

Group III: Claim 19.

Applicants hereby elect Group I (Claims 1-8, 11-18, and 22), without traverse.

Applicants have also added new Claims 23 and 24 herein. Applicants do not believe that restriction of these newly added claims from elected Group I is appropriate. However, in an effort to advance prosecution for purposes of declaring the interference requested herein, Applicants provisionally elect to prosecute Claims 23 and 24 should the Examiner believe further restriction is appropriate.

#### *Request For Interference*

(1) In accordance with 37 C.F.R. § 1.607 and MPEP § 2307, Applicants hereby request that an interference be declared between the present application and U.S. Patent No. 6,461,828 ("the '828 patent"). For the convenience of the Examiner, a copy of the '828 patent is provided herewith as Appendix B.

(2) The proposed count is identical to new Claim 23:

A method for predicting cardiac mortality rate in a patient, comprising:

drawing a sample of a body fluid from a patient;

contacting said sample with a first antibody that specifically binds to a first marker selected from the group consisting of cardiac Troponin-T and cardiac Troponin-I;

contacting said sample with a second antibody that specifically binds to a second marker selected from the group consisting of BNP and pro-BNP;

providing means for determining binding between each of said respective markers and each of said respective antibodies,

whereby said binding provides a means for determining cardiac mortality rate.

(3) Claims 1 and 3-5 of the '828 patent correspond to the proposed count.

(4) Newly added claims 23 and 24 in the present application correspond to the proposed count.

(5) The terms of application claims 23 and 24 are applied to the count as follows:

Claim language

A method for predicting cardiac mortality rate in a patient, comprising:

Application to the count

The phrase "cardiac mortality" as used in the '828 application is not specifically defined. However, column 5, lines 1-5 indicate that one of the objectives of the '828 patent is to provide a test that confirms cardiac etiology of symptoms and serves as a predictor of mortality. Thus, "cardiac mortality" refers to death having a cardiac etiology. Page 5, lines 18-21, of the present application indicate that the invention concerns "prognostic indicators" for determining the prognosis of a patient diagnosed with an acute coronary syndrome; such indicators "signal a probability that a given course or outcome will occur" as a result of the acute coronary syndrome; page 8, line 6, indicates that one such outcome is "death."

drawing a sample of a body fluid from a patient;

Patient samples, including the body fluids blood, serum, plasma, cerebrospinal fluid, and urine, are described on page 9, lines 14-18, of the present application as being the samples assayed in the disclosed methods.

contacting said sample with a first antibody that specifically binds to a first marker selected from the group consisting of cardiac Troponin-T and cardiac Troponin-I; contacting said sample with a second antibody that specifically binds to a second marker selected from the group consisting of BNP and pro-BNP;

The present application describes the use of BNP or pro-BNP as a prognostic indicator, *e.g.*, on page 4, lines 12-20; the use of a plurality of prognostic indicators on page 8, lines 8-10; cardiac troponin isoforms are described as a preferred prognostic indicators for combination with BNP on page 9, lines 8-13, and in originally filed claim 17.

providing means for determining binding between each of said respective markers and each of said respective antibodies,

The means for determining binding in the '828 patent include sandwich immunoassays homogenous immunoassays, biosensors, and optical detection. Page 15, lines 11-22, of the present application describes each of these means.

whereby said binding provides a means for determining cardiac mortality rate.

The examples in the present specification describe means for correlating the amount of BNP and cardiac troponin I determined by immunoassay to mortality in cardiac patients.

(6) The '828 patent issued October 8, 2002; thus, the requirements of 35 U.S.C. § 135(b) are met.

Applicants respectfully note that the effective filing date of the present application is April 13, 2001, while that of the '828 patent is September 4, 2001. Because of the earlier effective filing date of the present application, Applicants are *prima facie* entitled to a judgement relative to the '828 patent. Thus, the requirements of 37 C.F.R. § 1.608 are met.

Applicants respectfully submit that the pending claims are in condition for allowance. An early notice to that effect is earnestly solicited. Applicants also request that an interference be declared between the present application and the '828 patent.


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Should any matters remain outstanding, the Examiner is encouraged to contact the undersigned at the address and telephone number listed below so that they may be resolved without the need for additional action and response thereto.

Respectfully submitted,

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## Copy of currently pending claims

1. (Amended) A method according to claim 22, wherein said polypeptide originating from the pre-pro B-type natriuretic peptide (BNP) molecule is B-type natriuretic peptide (BNP); and  
  
said correlating step comprises correlating said BNP level to said patient prognosis by determining if said BNP level is associated with a predisposition to an adverse outcome of said non-ST-elevation acute coronary syndrome.
2. (Reiterated) A method according to claim 1, wherein said adverse outcome is selected from the group consisting of death, myocardial infarction, and congestive heart failure.
3. (Reiterated) A method according to claim 1, wherein said correlating step comprises comparing said BNP level to a threshold BNP level, whereby, when said BNP level exceeds said threshold BNP level, said patient is predisposed to said adverse outcome.
4. (Reiterated) A method according to claim 3, wherein said threshold BNP level is at least about 80 pg/mL.
5. (Reiterated) A method according to claim 1, wherein said sample is selected from the group consisting of a blood sample, a serum sample, and a plasma sample.
6. (Reiterated) A method according to claim 1, further comprising correlating said BNP level with one or more additional prognostic markers associated with said patient, whereby the combination of said BNP level with said additional prognostic marker(s) increases the predictive value of said BNP or related marker level for said adverse outcome.
7. (Reiterated) A method according to claim 6, wherein one of said prognostic marker(s) is a cardiac-specific troponin isoform concentration in a sample obtained from said patient.
8. (Reiterated) A method according to claim 1, further comprising determining a level of cardiac-specific troponin I in a sample obtained from said patient, and correlating both said BNP level and said cardiac-specific troponin I level to said patient prognosis, whereby the combination of said BNP level with said cardiac-specific troponin I level increases the predictive value of said

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BNP level for said adverse outcome.

9. Cancelled

10. Cancelled

11. (Amended) A method according to claim 22, wherein said polypeptide originating from the pre-pro B-type natriuretic peptide (BNP) molecule is a marker related to BNP; and

said correlating step comprises correlating said BNP-related marker level to said patient prognosis by determining if said BNP-related marker level is associated with a predisposition to an adverse outcome of said non-ST-elevation acute coronary syndrome.

12. (Reiterated) A method according to claim 11, wherein said adverse outcome is selected from the group consisting of death, myocardial infarction, and congestive heart failure.

13. (Reiterated) A method according to claim 11, wherein said correlating step comprises comparing said BNP-related marker level to a threshold BNP-related marker level, whereby, when said BNP-related marker level exceeds said threshold BNP-related marker level, said patient is predisposed to said adverse outcome.

14. (Reiterated) A method according to claim 13, wherein said threshold BNP-related marker level is at least about 80 pg/mL.

15. (Reiterated) A method according to claim 11, wherein said sample is selected from the group consisting of a blood sample, a serum sample, and a plasma sample.

16. (Reiterated) A method according to claim 11, further comprising correlating said BNP-related marker level with one or more additional prognostic markers associated with said patient, whereby the combination of said BNP-related marker level with said additional prognostic marker(s) increases the predictive value of said BNP-related marker or related marker level for said adverse outcome.

17. (Reiterated) A method according to claim 16, wherein one of said prognostic marker(s) is a cardiac-specific troponin isoform concentration in a sample obtained from said patient.

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18. (Reiterated) A method according to claim 11, further comprising determining a level of cardiac-specific troponin I in a sample obtained from said patient, and correlating both said BNP-related marker level and said cardiac-specific troponin I level to said patient prognosis, whereby the combination of said BNP-related marker level with said cardiac-specific troponin I level increases the predictive value of said BNP-related marker level for said adverse outcome.

19. Cancelled

20. Cancelled

21. Cancelled

22. (Reiterated) A method of determining a prognosis of a patient diagnosed with a non-ST-elevation acute coronary syndrome, the method comprising:

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determining a level of a polypeptide originating from pre-pro B-type natriuretic peptide in a sample obtained from said patient; and

correlating said polypeptide level to said patient prognosis by determining if said polypeptide level is associated with a predisposition to an adverse outcome of said non-ST-elevation acute coronary syndrome.

23. (New) A method for predicting cardiac mortality rate in a patient, comprising:

drawing a sample of a body fluid from a patient;

contacting said sample with a first antibody that specifically binds to a first marker selected from the group consisting of cardiac Troponin-T and cardiac Troponin-I;

contacting said sample with a second antibody that specifically binds to a second marker selected from the group consisting of BNP and pro-BNP;

providing means for determining binding between each of said respective markers and each of said respective antibodies,

whereby said binding provides a means for determining cardiac mortality rate.

24. (New) The method of claim 23, wherein said body fluid is selected from the group consisting of blood, serum, plasma, and urine.